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ABSTRACT

This paper uses a quality-assurance framework to unify the application of school-effectiveness and school-improvement knowledge to a school system. The paper proposes that effective school development is enhanced by the implementation of quality systems that recognize the stages of performance-development cycles. It discusses quality-assurance systems and the concept of performance-development cycles for organizations and schools. The quality-assurance school review and development program in New South Wales, Australia, attempts to integrate the school-effectiveness and school-improvement knowledge bases to improve student learning outcomes. The systematic school-development approach is comprised of the following: the devolution of authority to individual schools, a context of school networks, a focus on student learning outcomes, and continuous assessment of school practices. A systems approach means that the review and development process must be adapted to an individual school's stage in the performance-development cycle. For example, in the early stages of the performance-development cycle, strategies should focus on aligning school outcomes with specifications. Middle-stage quality-assurance strategies are more effective if they concentrate on monitoring compliance with process and service standards, and later-stage strategies should concentrate on fostering innovation and leadership to tap organizational creativity. Finally, schools must implement second-order changes that restructure processes in order to advance in the performance-development cycle. One figure is included. (Contains 49 references.) (LMI)

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QUALITY SYSTEMS FOR THE PERFORMANCE DEVELOPMENT CYCLE OF SCHOOLS

Paper prepared for the International Conference for School Effectiveness and Improvement. Melbourne, January 3–5 1994.

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QUALITY SYSTEMS FOR THE PERFORMANCE DEVELOPMENT CYCLE OF SCHOOLS†

INTRODUCTION

This paper uses a quality assurance framework to unify the application of school effectiveness and school improvement knowledge in a school system. It is of interest that the operational implementation of these paradigms is not widely reported in the school effectiveness and school improvement literature, which focuses almost entirely on research studies.

The paper combines applied research and operational development perspectives for school systems. Reynolds *et al* (1993) indicate that many systems in North America have implemented school improvement programs based on the effective schools knowledge base. However, school systems in the United Kingdom, New Zealand, and the Netherlands, which also have extensive school effectiveness knowledge bases, show a much lower level of adoption by practitioners. Australia has seen the widespread implementation of school development planning and school review processes over the last few years. In many cases these draw on aspects of the research knowledge of the school effectiveness and school improvement literature. The Victorian Quality Schools Project (Rowe *et al*, 1991) also represents a moderate scale research and school development project based within the school effectiveness and school improvement framework.

The major proposition put forward in this paper is that effective school development is enhanced by the implementation of quality systems that recognise the stages of the performance development cycle in schools. Quality assurance systems are discussed along with the concept of performance development cycles[1] for organisations in general and schools in particular.

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† This paper has benefited greatly from discussions with colleagues in the Quality Assurance Directorate as I have formulated these ideas over the last year or so. I have incorporated insightful comments on the earlier drafts of this paper from John Moore, Ann Thomas and Tim Wyatt.

[1] The term 'cycle' is used in this paper as a metaphor in the Shorter OED sense of 'a series of poems or prose romances collected around a continuous narrative (cf. Wagner's operatic 'Ring' cycle). Thus, it should not be interpreted in the more common understanding as 'a period in which a certain round of events is completed, recurring in the same order in succeeding periods'

QUALITY ASSURANCE IN THE NSW SCHOOL SYSTEM

The quality assurance school review and development program in New South Wales integrates an approach to managing the quality and development of schools and programs to improve student learning outcomes with the school effectiveness and school improvement knowledge bases.

This systemic approach to school development involves:

- An organisational framework with significant devolution of authority to individual schools, and one which increasingly is set within the context of school networks.
- A focus on student learning outcomes.
- Continuous assessment of the effectiveness of school practices in improving student outcomes.

The New South Wales school system is one of the largest in the world. It contains over 2200 schools serving 750,000 K–12 students. It has a total staff of over 60,000. The quality assurance program is systemic and covers all schools and programs in the system.

The key features of the methodology of the review and development program are as follows.

- A direct linkage between school review and development.
- A focus on student outcomes, over time and across a range of dimensions.
- The use of both quantitative and qualitative data—from all stakeholder groups in the system—and document information.
- The assessment and reporting of the effectiveness of practice and functioning and an analysis of outcomes at different levels of the system—programs within schools, schools, regions, and the statewide system.[2]

The quality assurance review and development program is centred on a perspective of the school system as a learning system (Senge, 1992). It is seeking to build–in practices to ensure the most effective development at each stage in the performance development cycle of schools. Further, the information gained from the school review process is designed to be utilised to inform and support decision making at all levels of the school system.

In addition to the review and development orientation of the program, the school reviews also contribute to systemic accountability requirements (Cuttance, 1993b). Each school review undertakes an evaluation which considers the educational needs of the school community. The reviews

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[2] See for example the public review reports for individual schools, the systemic report *Review Report 1993*, (Cuttance, 1993a), and regional and portfolio reports.

contribute to accountability through public reporting processes. The reports at school, region, and system level are all documents in the public domain.

THE QUALITY ASSURANCE SCHOOL REVIEW PROGRAM

As already indicated, the program has both a development and an accountability focus. It is a top–started bottom–driven program (Boston, 1993). The program is designed to be responsive to the performance development needs of individual schools. It has an arm's length independence from the regional operational support structures for schools, hence, significantly reducing the potentially pernicious effects of the accountability element of individual school reviews. The independence from operational arms of the department provides the necessary differentiation between administrative accountability (compliance monitoring) and line management accountability (appraisal of the performance of personnel) on the one hand and external accountability to professional standards and the public on the other. Systems, such as the former LEAs in England and Wales, which combined these forms of accountability into a single set of procedures and activities have generally found that the result is to stifle the potential for the review process to impact significantly on school development.

The school and its community is the centre of the review and development process, although it is important to see schools as set within a deeper organisational structure in the system. The review process is collaborative in that schools negotiate the focus of individual reviews with their review teams. Further, the development of the program has been set within a collaborative framework. Principals, teachers—through the New South Wales Teachers Federation—and parent organisations have been closely involved in the development of the program. The program provides a systematic approach to school development based on development planning and collaborative management practices. In addition there is structured follow–through by Directors of Schools to assist schools in their development. There is also support for the development of continuous improvement strategies through their integration with a quality management perspective.

The school reviews, however, are only part of the overall mosaic. Other papers at this conference discuss the development of statements of best practice throughout the system, program evaluation, and the role of reporting in informing and guiding further development and improvement throughout the system.[3]

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[3] See papers by Paul Britton, Bob Carbines, John Dawson, Neville Highett and Tim Wyatt in other sessions at this conference.

Each school review is based on a small number of negotiated focus areas. In negotiating the focus areas schools undertake an analysis of the aspects of their work which would repay greatest return from further development. In doing so schools address four key factors:

- factors *enabling* current successful programs;
- factors *impeding* current performance;
- key areas of development necessary to meet emergent community needs over the next three to five years;
- the effectiveness of services and programs provided by other parts of the school system to schools.

Each review has a high level of stakeholder involvement in the provision of information and the assessment of the issues that the school wishes to tackle through further development. The public reporting from each review focuses on the future development of the school and is a catalyst for the continuing involvement of the school community in that development work. The school Principal and Director of Schools have responsibilities for ensuring appropriate follow through on the recommendations from the review.

There is also an element of systemic evaluation in each review. This consists of program evaluations across a significant number of schools (eg. teaching English as a second language, the education of girls), systemic monitoring of the level of effectiveness of practice and functioning across schools, and evaluations of the effectiveness of regionally based aspects of support and service provision to schools. These aspects of the process are discussed further in Carbines (1994) and Highett (1994).

One of the key features of this quality assurance program is its focus on the implementation and continuation of improvements at the school level.[4] It seeks to integrate school, community and systemic support and directions. An important aspect of this is systemic program performance evaluations. These evaluations provide information on the performance of a range of programs and services operating across schools. In addition, meta analysis of the findings from individual school reviews provide key information on aspects of the system which are performing well and those which are requiring further development (Cuttance 1994a). The systemic reporting function of the quality assurance program and its role in strategic planning and development is discussed in Wyatt (1994); and the reviews of practice and functioning across schools are discussed in Highett (1994).

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[4] For comments on the school review process see the articles by school principals in *Principal Matters*, Vol 30 (3), December 1993, the journal of the Victorian Association of Principals of Secondary Schools and the NSW Secondary Principal' Council.

THE FRAMEWORK FOR MANAGING CHANGE IN ORGANISATIONS

In discussing change in a broader framework, Fullan (1993) focuses on schools as 'learning systems' (Senge, 1992). He raises the following key issues.

- Dealing with change is a normal part of everyday work, hence, change is part of the dynamics of any organisation.
- Unplanned influences on change are inevitable, and may produce unexpected impacts on other parts of the system.
- It is difficult to follow the impact of a change through a system.
- Leadership should be seen as a way of designing the learning framework and providing stewardship over the broader purpose and direction of the organisation, integrating new perspectives with the initial global vision, assisting others to learn how to shape and implement the future, and acting as a catalyst for future development.

One implication of Fullan's perspective, is that it may allow us to avoid falling into the 'excellence' trap. Much of the work on change and development in organisations that was undertaken last decade led to prescriptive statements about the characteristics of high performance organisations, for example, *In Search of Excellence* (Peters and Waterman, 1982). The trap of this approach was that it led others to believe that by attempting to implement and develop or mimic these features in their own organisations that they would also achieve high performance.

Another realisation of the new perspectives on organisational change is that organisations are *systems*. Change in one part of a system is highly likely to have an influence on some other part of the system. The implications of this for the emerging network structures in school systems (Cuttance, 1994b) have not yet been widely discussed.

Magnitude of change

The order, or magnitude, of change that organisations have attempted to implement is also another feature missing from the recent literature on schooling.[5] Watzlawick, Weakland and Fisch (1974) categorise change as being of first or second order. Cuban (1989) used this framework to examine change in schools and the conditions under which it occurs.

First order change involves the rearrangements of parts of an existing system without disturbing the basic values or structures. Second order change requires a change in values, beliefs, the reconceptualising of tasks

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[5] I am indebted to John Cooney for the material presented in this section. See Cooney (1993) for further details.

and relationships, and the setting of new goals and objectives. This requires members of an organisation to transcend their present frame of reference.

This distinction between first and second order change has parallels to Fullan's (1992) discussion of surface change and real change. It is possible to change on the surface by endorsing certain goals and imitating desired behaviours but not understand the principles and rationale for the change. Moreover, it is possible to be articulate about the goals of the change without understanding their implications for practice. Dalmau and Deck (1985) also distinguish between incremental change and radical change. They see incremental change as essentially maintaining an organisation in its existing state by finding new ways of expressing established goals. Radical change, however, touches the organisation's very nature and develops new beliefs, new goals, different roles and norms.

Kanter *et al* (1992) speak of Change and change. For them Change requires a reformation of an organisation's character which refers to its structure, systems, and culture. On the other hand, change involves no substantial adjustment to patterns of behaviour in an organisation. In some circumstances, however, an accumulation of changes could have sufficient effect on the organisation's structures to add up to a Change. Morgan (1986) uses the metaphor of the organisation as a flow and transformation to show that organisations not only maintain themselves by means of adjustments, but also by self-renewal and self-reproduction. This perspective aligns with the now commonly used term 'learning organisations' which are geared to generate new knowledge, expertise and skills in order to anticipate and deal with changing external circumstances.

There is evidence to indicate that first order change (change) may be difficult to embed in the long term and, therefore, for it to have a significant impact on the organisation's performance or development. The Rand change agents study (Berman and McLaughlin, 1978) found that attempts at large scale change tended to be more successful in education systems than attempts at small scale change. In general, it is thought that individuals in an organisation will not change from what they are currently doing unless they can see significant benefits, and those significant benefits normally flow only from large scale changes. Kanter *et al* (1992) also indicate that first order change may be unsustainable and temporary. Further, Cuban (1989) and Fullan (1992) argued that a multitude of changes may give members of an organisation a feeling of being inundated by an impossible array of demands and they may end up feeling frustrated and alienated. They suggest that doing fewer things well and ensuring that change initiatives are integrated will help gain members' support and energy.

THE SCHOOL DEVELOPMENT PROCESS

The effectiveness of schooling and school improvement paradigms

As noted by Reynolds *et al* (1993) the school effectiveness and school improvement research paradigms have tended to lead lives independent of one another. However, the practical application of research knowledge from either of these programs has tended to draw more widely than the parent paradigm. For example, school systems that have attempted to implement strategies based on the effectiveness of schooling paradigm have had to pay attention to matters related to the implementation of change, which are a core feature of the school improvement paradigm.

The school effectiveness and school improvement paradigms are, of course, artefacts of the minds of researchers. Their purpose is one of the classification of knowledge and of providing theoretical frameworks to comprehend school systems. It is principally in the research literature that these two paradigms have remained independent, rather than in the world of reality.

The school effectiveness literature has restricted itself largely to describing differences between schools, whereas the school improvement literature has concerned itself with ways of changing schools (Gray, 1993). Fullan and Hargreaves (1992) have to some extent brought these two paradigms together through their suggestion that any school improvement program should use pupil achievement and performance data as well as the school improvement approach.

School development planning

"The purpose of development planning is to improve the quality of teaching and learning in a school through successful management of innovation and change . . . Probably the main reason why schools have taken up development planning . . . is that it offers a means of managing rapid and substantial change . . . The principal gain is that it allows the school to focus on its fundamental aims concerned with teaching and learning. Development planning is really about school and classroom improvement." (Hargreaves and Hopkins, 1991; p7)

By themselves, school effectiveness research findings are too narrow to be applied directly to the improvement of schools (Cuban, 1983). In particular, they have little to say about the nature of the process that leads to effectiveness, or for that matter, the process that leads to ineffectiveness. "Nowhere . . . [is] the process of translating the correlates [of effectiveness] into a programme of action sufficiently articulated." (Hargreaves and Hopkins,

1991; p110) Two of the foci of the school improvement literature have, however, been the development of strategies for educational change to strengthen the organisation of schools and the implementation of curriculum reforms, both key issues in any framework for action in improving schools.

Louis and Miles (1990) set themselves the task of understanding some of the key issues in successful school development. They found that five factors were important in the improvement of schools in large cities in the USA.

- Development was most successful when schools had considerable autonomy in determining their goals and strategies, with the school system providing support and direction.
- An evolutionary approach to planning worked best — using small scale success to create the energy, skills and knowledge to tackle larger projects directly focussed on student learning.
- Ownership of the school's vision by all involved in the development process.
- Linking resources to specific development strategies to support the achievement of the school's mission.
- A problem coping approach which provided an active, prompt, and deliberate way of tackling the myriad of impediments and constraints that arise in the development process.

These findings are strongly supported by Fullan's (1992) detailed analysis of the determinants of successful change in educational organisations. Fullan emphasises the unknowable element in any change process and the importance, therefore, of the approach to managing the change being viewed itself as part of the change process. Only slightly tongue–in–cheek Fullan says, "[t]he solution to the management of educational change is straight–forward. All we need to do in any situation is to take the factors and themes [known to be important] . . . change them in a positive direction, and then orchestrate them so they work smoothly together." (p93)

THE PERFORMANCE DEVELOPMENT CYCLE OF SCHOOLS

Performance cycles in organisations

Movement and change in organisations is discussed in Kanter *et al's* (1992) recent work. They see organisations as constantly moving. In a stable organisation, where there is a coalition of interests and activities, the motion is smooth. However, when there is movement in an organisation's environment, internal structures or governance arrangements, real change occurs since the coalition is altered. These changes can be described as 'earthquakes', 'evolutionary change', or the result of 'territorial wars'.

Earthquakes are a manifestation of restructuring in organisations. Although those working in public sector organisations are apt to think that restructuring occurs more often in the public sector than elsewhere, that is not the case. Many large private sector organisations undergo a higher rate of change than most public sector organisations. Movement in the form of earthquakes relates to the motion of the organisation as a whole in relation to its environment, and is change that is macro-evolutionary, historical, and typically related to whole industries. Identity changes and the relationships between the organisation as an entity and its environment are the most extreme version of such change, as when an organisation becomes something entirely different in order to ensure its survival.

Evolutionary change relates to the motion of the parts of the organisation in relation to each other as the organisation grows, ages, and progresses through its life cycle—this change is micro-evolutionary, developmental, and typically related to size or shape, resulting in co-ordination issues for the organisation. It may also be the result of co-ordination changes, which involve the internal array of parts of the organisation. That is, there may be a need to change the organisation's internal configuration rather than simply let it evolve and this may ultimately result in deliberate reshaping or revitalising. The move towards network structures in organisations will facilitate smoother evolutionary change as it allows a series of small earthquakes to take place as the tectonic plates of the organisation move, rather than the rarer but more disturbing large earthquakes. Devolution in school systems and the formation of networks among schools is a parallel to such reshaping in large private sector organisations.

The third form of motion and change in organisations is that due to territorial wars resulting from the politics of control. These changes stress the political dimension of who owns and governs the organisation. Essentially, they result from a change in the balance of power and control among individuals and groups and the consequential change in the distribution of benefits and the expression of interests.

As discussed earlier this way of conceptualising the pattern of change in organisations does not view change as a cycle of periodic or recurrent events. Organisational performance development cycles are viewed as a set of thematic narratives which may be played out in different patterns depending on the individual contexts of organisations. Clearly, the passage of time is an element of any such narrative, but there is no suggestion that the narrative need take the same path through time in all organisations.

Performance development cycles for schools

Although largely neglected in the literature on change and development in schools, the performance development cycle is a factor which has received

some recent attention. Recent work by Gray (1993) and Rosenholtz (1989), in particular, has drawn attention to the possibilities of performance development cycles for schools. Rosenholtz discusses 'stuck' and 'moving' schools and school districts in relation to their effectiveness.

Figure 1: Possible performance development paths for schools

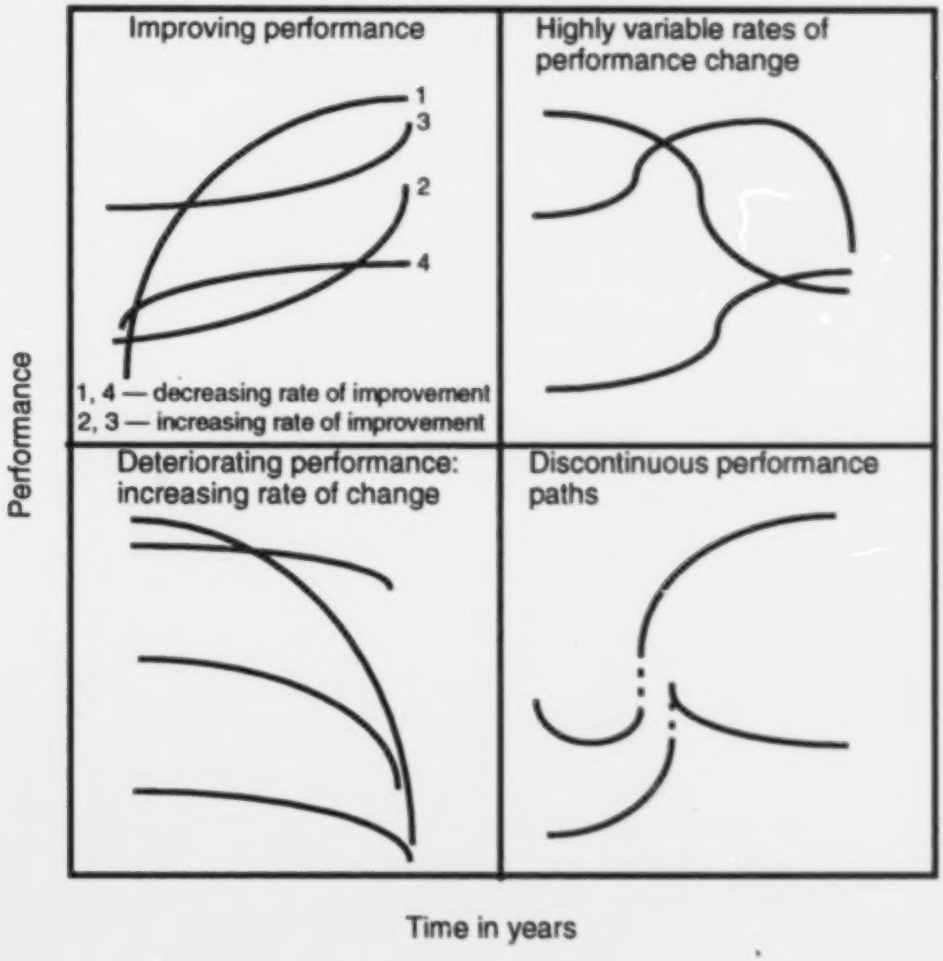

Figure 1 describes a range of possible development paths for schools. It is useful to consider the calculus of such development paths. The first derivative of the curves indicates the point at which no change is taking place, that is, the point of temporal stability. Note that only two of the development paths in the figure offer the respite of stability at any time, and then only momentarily. Clearly, both high and low performance schools could be stable in terms of their performance development. Schools with high levels of performance are facing unknown territory in terms of their further improvement. Such schools could be compared to organisations on the frontiers of technological development. Their challenge is not only one of how to maintain their present position, but one of how to generate the creativity that will allow them to break

through the barriers to sustainable peak performance as they move forward. Schools with stable but low performance, on the other hand, may require very substantial effort and appropriate external support to develop the necessary conditions for sustainable improvement.

The second derivative of such curves leads us to the physics of acceleration. Thus, schools somewhere between high and low performance may either be moving upwards or downwards along the curve and this process may be one of an increasing or decreasing rate of change. Measures to halt downward acceleration, clearly, would require quite different actions to be taken to measures to cope with the stresses that are likely to accompany high levels of upward acceleration.

The concept of discontinuous improvement in performance as indicated by the performance development paths in the lower right quadrant of Figure 1 highlights a fundamental difference between change and Change. The reshaping of the organisation's structure and relationships that is required of Change may result in a quantum change in performance, rather than the continuous improvement that is exemplified by the performance development paths shown in the upper right quadrant.

On the basis of empirical data, Gray (1993) suggests that it may take several years for an ineffective school to become an effective school. This is not surprising to those who have worked with schools. Three to five years would seem a reasonable period for a school to move from an ineffective school to one in the middle of the performance distribution. Although this appears to be a significant period, the change in that school would still be considerably greater than the change in the overall system during that period. Further, for many schools operating above the lowest point of the performance development cycle, improved performance means improving the effectiveness of individual school programs that influence only the performance of specific sub-groups of the school's population. The significant amount of variation in student outcomes that appears to lie between programs (in some cases, classrooms) within schools (Creemers 1992; Rowe *et al*, 1993; Tymms and Fitz-Gibbon, 1990) supports this perspective that the improvement of individual schools may mean focusing on individual programs within schools.

The sustainability of school development

There appears to be little research that considers the conditions necessary for sustainable school development. The author developed a four–category operational criterion for classifying schools in terms of the sustainability of their development. The classification of schools was undertaken as a high–inference professional judgement by the leaders of teams following a review of the school (Cuttance, 1992; Cuttance, 1994b). The findings for a survey of schools in an Australian state system indicated that:

- 42% of the schools reviewed were advanced in terms of their development planning and capable of sustaining their own development;
- 30% of the schools had established the necessary structures and processes for sustainable development subject to the normal assistance and support provided by external support services and programs for these schools;
- 17% of the schools were in need of early and continuing external support to establish the necessary structures and processes for sustainable development; and
- 12% of the schools were in need of substantial external support over a prolonged period to establish the structures and processes for sustainable development. Significant leadership and organisational development and change were considered likely to be necessary to establish the basis for effective development in this group of schools.

This type of classification of development in schools should not be considered as independent from the concept of a performance development cycle as described in the previous section. Schools with high current performance may require external support to ensure that they sustain their performance, however, they should normally be capable of seeking out and utilising that support on their own initiative. Schools with deteriorating performance that is not arrested by specific actions taken by the school have not developed the conditions for sustainable development. Schools in the second and third categories require the external direction and support of the school system that Louis and Miles (1990) found to be important in sustaining successful development. Schools in the fourth category—those with very low performance and inadequate structures and processes to sustain development themselves—may require significant structural change and reorganisation in their personnel and reshaping of the relationship with their external community.

QUALITY SYSTEMS FOR SCHOOL PERFORMANCE DEVELOPMENT

Overview of quality systems

Quality systems can be viewed as having passed through four generations of development. The first generation employed quality management strategies based on concepts of quality control that relied primarily on inspection of final products and had almost no application outside the process manufacturing sector (circa 1950s and 1960s).

The second generation of development employed quality management strategies which today would be viewed as quality assurance in the narrow definition of that term. They were essentially based on the accreditation or certification of manufacturing processes against specified process and product standards. Accreditation of organisations and processes against national and international standards (eg. AS3901, ISO9000) are examples of such strategies in use today.

The third generation of quality management strategies relates to a range of disparate approaches which are often referred to collectively as total quality management strategies. These focus on both process and product standards and the 'building in' of quality through managing continuous improvement in processes. They place significant emphasis on customer satisfaction, waste reduction, routinisation of practices and teamwork (McLagan, 1991). A number of recent reports of attempts to apply such quality management practices to schooling have appeared in the literature (Dudden, 1993; Hough, 1993; Lezotte 1992). There are a range of issue that have not been resolved in terms of the appropriateness of applying such quality management strategies to the development of schools (Capper and Jamieson, 1993; Cuttance, 1993c; see also the special edition of *Educational Leadership* of September 1993).

Current research suggests the need for a new fourth generation of quality management strategies. This generation should recognise that different quality management strategies are required at different phases of the performance development cycle in organisations. The message here is that, contrary to the received wisdom of third generation practices, there are few universal quality management strategies that are applicable across all stages of an organisation's development.

An international study of 945 quality management strategies in 580 commercial and industrial organisations found that only three quality management strategies had universal application across organisations at different points in their performance development cycle (American Quality Foundation, 1992). These were:

- a strategic focus on process improvement;

- strategic planning; and
- supplier certification programs.

The most important finding from this research was that different quality management strategies were effective in different phases of the organisational performance development cycle. In the early part of the cycle the strategies which were most effective in improving performance were:

- building teams;
- empowering staff to solve problems;
- general and specific training; and
- a strong emphasis on inspection of the product.

Organisations in the middle of their performance development cycle benefited most from:

- the use of teams, a continued emphasis on training;
- a focus on process improvement through its simplification;
- the implementation of vendor–certification programs;
- the use of quality assurance systems to enforce compliance with process and service standards;
- tight control over strategic planning; and
- the monitoring of progress against targets.

Organisations approaching the top of the performance development cycle gained most advantage from:

- empowering employees to interact directly with their customers;
- undertaking benchmarking studies;
- implementing process simplification; and
- making innovation and creativity the focus of quality assurance strategies.

The vital message from this research is that organisations need to change their quality management strategies as they progress through their performance development cycle. The strategies which are effective for improving performance at one stage of the cycle are not necessarily effective at other stages of the cycle. These findings, of course, run counter to the received wisdom of current quality management practices in the business sector. In particular, the finding that there are indeed few universal quality management strategies which are effective at different stages of organisational performance development run counter to the main emphasis of such approaches as total quality management.

Quality management practices for school development

Recent research on school effectiveness and school improvement does not recognise that it may be necessary to utilise different quality management strategies at different stages of the performance development cycle in schools. The closest that the research literature appears to get to this issue is the recognition, belatedly, that context plays an important part in school development. Gray (1993) suggests that we may require to understand school improvement according to the context and situation of the individual school, but acknowledges that "we know only a little about which 'stage' we are tapping into in each school's 'natural history'" (p20). Some time ago, however, Purkey and Smith (1983) asked the following questions of the school effectiveness literature:

- Are different strategies required for low–achieving schools to raise their scores than for high–achieving schools that are beginning to decline?
- Once a school is deemed academically effective what is needed to maintain its success?
- How do different improvement strategies affect sub-populations in a school? (p447).

Teddlie and Stringfield (1993) found evidence that some schools in the Louisiana School Effectiveness Study experienced significant decline or improvement in their performance over time. These findings must be set within the context of other research indicating that some school systems seem to be stable in terms of school performance. This research found that high performance schools continued to perform at a high level and that schools at lower levels of performance continued to perform at lower levels of performance over time.[6]

In terms of the future development of school systems, most of the current research suffers from the problem that it is describing variation in extant systems. It does not address the question of what could be done in terms of the improvement of individual schools.

Teddlie and Stringfield (1993) provide evidence of context sensitivity in the factors responsible for high performance. For example, they found that:

- low SES schools performed better when they restricted their curriculum focus to basis skills, but that middle SES schools performed better when they had an expanded curricular offering beyond basic skills;
- low SES schools performed better when they hired teaching staff who were relatively inexperienced but enthusiastic, while middle SES schools performed better when they hired more experienced teachers;

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[6] See discussion in (Gray, 1993).

- low SES schools performed better when they hired principals who were good initiators and wanted to make changes, and spent a significant amount of time in classrooms providing instructional leadership, while middle SES schools performed better when they hired principals who were good managers who devolved responsibility for instructional leadership to teachers; and
- low SES schools performed better when they buffered the school from negative influences in the community, while middle SES schools performed better when they encouraged high levels of participation and high expectations for student achievement in their community.

Other evidence that provides some support for the possible applicability of the concept of performance development cycles in schools comes from the study by Rosenholtz (1989), who describes different district level strategies that were associated with 'stuck' and 'moving' districts and schools. She indicated that schools seemed to mirror a microcosm of their districts: the moving districts selected principals and teachers on merit, provided continuous opportunities for learning, and devolved decision making to schools but thereafter monitored the situation. These were the "keys to unlocking sustained teacher commitment and the capacity for schools' continuous renewal." (p168).

No research thus far has attempted to investigate the effectiveness of different quality management strategies at different stages of the performance development cycle for schools. The recent study of quality management strategies in the business sector discussed earlier (American Quality Foundation, 1992) provides part of the framework for such research. That study, however, did not investigate quality management practices within the framework of a performance development cycle, but simply for organisations performing at different levels—low, medium, and high performance. The study did, however, evaluate the quality management practices in terms of their effectiveness in improving performance as measured by organisational outcomes.[7] Similar research for school systems will require longitudinal data which evaluates the relationship between school practices as performance remains stable, improves or declines. Further, such a study should investigate the key proposition emerging from this paper, that different practices are important at each stage of the performance development cycle for schools.

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[7] The study evaluated the effectiveness of quality management strategies against the criteria of profitability, productivity and quality of product or service.

Research and development

It is proposed to conduct such a study as part of the routine monitoring of the performance of the school review process in New South Wales. Basic skills test data in literacy and numeracy is available on student performance for the population of students in Years 3 and 5 every year and public examination data is available for Year 10 and Year 12 students. Further, Rowe *et al* (1993) have recently shown the viability of using student performance data from the National Profiles which are being adapted to NSW syllabuses and implemented over the next 3 years. Profiles data on student performance will provide a rich longitudinal record of student achievement in key curriculum areas.

The above range of student outcome measures focus on cognitive outcomes as they are assessed by summative measures of student achievement, although there is potential for the assessments of student performance against the profiles to address a wider range of learning outcomes than traditional tests. Hargreaves (1984) listed four domains of student achievement that schools attempt to address.

- Knowledge acquisition and expression — the capacity to retain propositional knowledge, to select from such knowledge appropriately in response to a specified request, an to do so quickly without reference to sources of information.
- Knowledge application and problem solving — the application of knowledge to practical, rather than theoretical ends, and in oral rather than written forms.
- Personal and social skills — the capacity to communicate with others in face–to–face relationships; the ability to co-operate with others in the interest of the group as well as the individual; initiative, self-reliance and the ability to work alone without close supervision; and the skills of leadership.
- Motivation and commitment — the willingness to accept and work with failure without destructive consequences; the readiness to persevere; the self-confidence to learn in spite of the difficulty of the task.

Policy developments in Australia have sought to address these issues in the context of the education required for the workforce of the twenty-first century. The 'competencies' frameworks discussed by the report of the Mayer Committee (Mayer, 1992) and the Finn Committee (Finn, 1991) and the recent policy announcement of the NSW Government of a structure to address the implementation of aspects of these areas of skills and knowledge in the New South Wales school system clearly indicate their importance as desirable outcomes for students.

The best practice statements being developed in conjunction with schools by the NSW Quality Assurance Directorate (Highett, 1994) will provide a wide range of criteria for the evaluation of quality management practices in schools. These statements will cover school practices and functioning in the following areas of the work of schools.

- Teaching and Learning
  aspects of:
  - the learning environment
  - student learning
  - teaching practices
- Management and Governance
  aspects of:
  - strategic management
  - leadership
  - decision making and communication
  - student welfare and outcomes
  - staff development and training
  - parent and community participation
  - curriculum responsiveness, resources and review
  - administration and budgeting of resources
  - the external environment
- Leadership and Culture:
  aspects of:
  - organisation and management
  - symbolic culture
  - educational practice
  - personal and professional life.

The framework provided by the data that will be available on student outcomes and on best practice in schools generates a basis for researching the issues put forward in this paper. The school review program will work with about 550 schools each year. These reviews will provide the opportunity for gathering core information which can be supplemented by school self–evaluation data on practices for managing the quality of the work of schools. A study of this scope should be capable of providing significant new insights into a wide range of school effectiveness and school improvement issues.

Methodological Issues

One methodological issue that will require attention is the tendency to treat only variation in practices between schools as a source of their effectiveness or ineffectiveness. This shortcoming particularly affects the interpretation of the major quantitative studies of factors influencing the effectiveness of schools in the school effectiveness paradigm (eg. Rutter *et al*, 1979; Mortimore *et al*, 1988). There has been less of a problem in studies which

have utilised qualitative case studies of schools as part of the overall research design (eg. Teddlie and Stringfield, 1993; Reynolds *et al*, 1987; Rosenholtz, 1989).

The core of the complex conditions for effective quality management at each stage of the performance development cycle may be satisfied in most schools regardless of where they are on the performance cycle. However, this may not *necessarily* lead to high performance, which may only occur once the *sufficient* conditions have been satisfied. The sufficient conditions may vary from one stage of development to another and there may also be multiple and alternative sets of sufficient conditions that could be satisfied at each stage. Past quantitative studies that have utilised analysis of co-variation between supposed causes and measures of the effectiveness of schools may have detected only the influences of quality practices beyond those that are necessary for moving from one stage of the performance development cycle to the next. That is, there is a possibility that the core and necessary quality management practices may have been overlooked due of the methodology applied in many quantitative studies of school effectiveness.

Further, the idea of schools as *systems* implies that a change in one part of the system may have flow-on effects to other parts of the system, and in many cases it may not be possible to predict with any certainty what these consequential effects will be. This means that the attempts of much of school effectiveness research to identify singular and 'independent' causal effects of quality management practices may be a futile exercise.

DISCUSSION AND CONCLUSIONS

The quality assurance review program in the New South Wales school system has been designed to provide support to the development of individual schools while also contributing through public reporting to the accountability of schools and the system more generally. In addition to reviews of the performance and development of schools, the program assesses the effectiveness and development of the services and programs provided for supporting schools in their task of achieving high quality student learning outcomes. The program is also designed to have a direct impact in the strategic direction and planning of the system.

The school review program draws together the knowledge bases established by the research literature in school effectiveness and school improvement within a framework of quality systems for supporting student learning outcomes.

The primary argument of this paper has been the need to adapt the review and development process to the stage each individual school is at in its performance development cycle. Essentially, this means that the school's

system for supporting its development must be adjusted continuously to provide the most conducive environment for that development. Research in non-school organisations suggests, contrary to currently received wisdom, that there may be few quality management practices that are appropriate in all contexts of the performance development cycle of any organisation. For example, organisations at the cutting–edge are unlikely to gain from expending further resources on core staff training—their fundamental challenge is to design the conditions that enhance the creative output of their staff. However, schools with low performance which are struggling to develop the conditions for sustainable improvement need to concentrate their resources on the training of staff in basic skills and on achieving the necessary focussed planning and development structures to create small successes that they can then build on.

One consequence of the proposition of performance development cycles and the need to employ quite different quality management strategies at different stages of development is the recognition that no organisation is likely to have stable performance for other than short periods. Further, the systems perspective of change in organisations leads one to the conclusion that change in one part of the organisation will necessarily have an effect, often of an unknown character, elsewhere in the organisation.

The implications of this for the performance and development of schools are twofold:

- the management and development practices appropriate at one stage of a school's development may be ineffective at the next stage of development, thus making it necessary to continuously reshape the quality systems in schools
- the process of reviewing schools needs to adapt to the present context of the school—specifically, to the stage of the development cycle that the school is in at that time.

Adapting the review and development processes and structures for schools to the stage of the performance development cycle requires considerable knowledge about the most effective quality management strategies at the different stages and contexts of the development cycle. The findings from research in the school effectiveness and school improvement paradigms do not provide the detail required to inform this approach to school development. Although schools themselves operate on the basis of what they know works best for them with little reference to the research literature, there is a challenge here for the research on school effectiveness and improvement to take up.

The quality assurance review program in New South Wales will undertake development work to ascertain the variation of effectiveness for a range of quality management practices at different stages of schools' performance development cycles and in a range of contexts. This will support the

development of different forms of review for each stage of the performance development cycle of schools.

The findings of the research in business indicate that quality assurance reviews and practices themselves need to adapt to the various stages of the performance development cycle. The findings from research in the business sector indicates the most effective role for quality assurance is as follows:

- in the early stages of the performance development cycle quality assurance strategies are most effective if they focus on inspecting outcomes to ensure that they comply with the specifications set for them;
- in the middle stages of the performance development cycle quality assurance strategies are most effective if they concentrate on monitoring compliance with process and service standards throughout the production of the service; and
- in the later stages of the performance development cycle quality assurance strategies are most effective if they concentrate on fostering innovation and leadership to tap the creativity of the organisation, including benchmarking against best practice standards to create pressure for new ways to structure work.

It is not clear from research on school effectiveness and school improvement whether the role of quality assurance should vary in this or some other way through the different stages of the performance development cycle. However, there are suggestions in the research that the leadership of schools should keep a relatively tight reign on the quality of outcomes early in the development cycle and move their focus to the broad parameters of the processes of schools as they progress to the middle stage of the performance development cycle for schools. Reviews of schools with low performance should focus on the quality of the essential learning outcomes for students and the basic infrastructure required for sustainable development. It will be necessary to reach a clear understanding with schools of to the nature of the conditions required for sustainable development.

Reviews of schools in the middle stage of the performance development cycle should focus on the gap between current practice and best practice in the aspects of quality management required to move the school towards high performance. Analyses of the performance of schools against the information provided over time from the best practice surveys will provide important information on the particular quality management practices that are most important in this move towards establishing a high performance school. Reviews of schools approaching the 'cutting edge' need to focus on how to

generate new forms of working relationships and new approaches to the teaching and learning process.[8]

A new form of review for schools at the top end of the performance development cycle, focussing on student outcomes and the school's quality system will be piloted in 1994. The mainstream review process that has been developed during 1993 in collaboration with schools and their communities is sufficiently adaptable to meet the needs of schools in the broad middle range of the performance development cycle, with further enhancements to focus on the most appropriate aspects of quality systems for the development for schools that are improving, stable or declining in performance. There will be a need to develop a form of review that focuses on the key features of effective quality practices for developing schools with low performance. It is likely that such reviews will need to focus on the management and organisational structure of the school, including the relationship it has with its community, in addition to the core issues of leadership of teaching and learning, to generate the basis for sustainable development in the performance of the school.

Finally, this paper draws attention to a fundamental issue in the achievement of sustainable and substantial change in organisations. The change management literature indicates that attempts to make small changes have generally had few enduring effects. Only changes of substantial scope, those requiring reshaping of the organisation, appear to have had an enduring legacy. This finding is fundamentally counter to the arguments that have underpinned the development of continuous improvement in many organisations. Such quality management strategies are based on first order changes and do not aim to alter the structure of the organisation. Recent critiques of quality management strategies that make continuous improvement their *raison d'etre* have focussed in part on their lack of capacity to effect second order changes.

The organisational change literature has not distinguished sufficiently between different forms of change. Particularly the type of change necessary to generate a quantum shift in the performance of an organisation, compared to changes that aim simply to ensure that the internal array of the parts of the organisation are aligned and that the operational structures are well 'oiled'. Second order change aims to create new ways of achieving the organisation's mission or, in some cases, to reshape the mission itself.

First order change may provide a basis for continuous improvement in the middle stages of the performance development cycle of schools, but schools

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[8] It is likely that the experience of the schools in the National Schools Network will provide important evidence of changes to work practices to optimise development at each stage of the performance development cycle in schools. The recently agreed Enterprise Agreement between the NSW Teachers Federation and the Department of School Education specifically provides for quality assurance reviews to evaluate the impact of new work practices in schools.

may need to implement second order change in order to move from the bottom or the top of the performance development cycle. Second order changes that reshape the way that a school undertakes its work also provide the basis for quantum shifts in performance at any stage of the performance development cycle.

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